CONCORDIA UNIVERSITY

Learning Development Office
2492 West Broadway
Tel.: 482-0320 locals 397/695

TEACHING AND LEARNING

Volume 7, Number 2 Editor: Jane Magnan

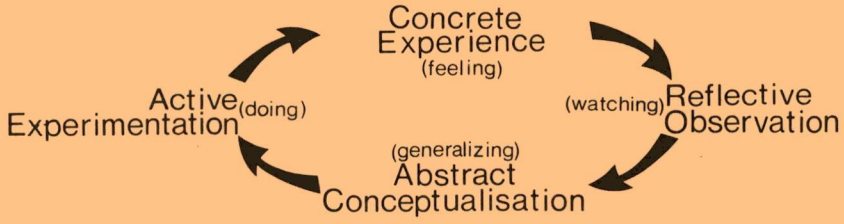
October 1980

A Comprehensive Model For Understanding Learning

As the university is beginning to question its role in promoting not only knowledge but the ability to learn on one's own and to continue a life-long process of enquiry, we thought it may be useful to present a model of learning to you that is both simple and easily applicable across disciplines. Whenever we give a workshop on instructional effectiveness or student learning skills we invariably choose the David Kolb Learning Style Inventory as a framework for understanding how students learn and why faculty teach the way they do.

The L.S.I. is based on the experiential learning model developed by Kurt Lewin in his early work on group dynamics. The underlying insight of experiential learning is very simple; it states that learning, change and growth occur through a process that begins with 1) here and now experience followed by 2) collection of data and observations about that experience. The data are then 3) analyzed and the conclusions of this analysis are fedback to the actors in the experience for their use in 4) modification of their behaviour and choice of new experiences.

DIAGRAM:



Thus - immediate concrete experience is the basis for observation and reflection. These observations are assimilated into a theory from which new implications for action can be deduced. These hypotheses/implications then serve as guides in acting to create new experiences.

.../2

This learning model differs from other learning theories in that it emphasizes that learning and change result from the integration of concrete emotional experiences with cognitive processes, conceptual analysis and understanding. Thus learning involves the labelling and relabelling of immediate existential experience. It maintains that learning is best facilitated in an environment where there is dialectic tension and conflict between immediate experience and analytic detachment. Of central importance is the idea that learning, by its very nature is a tension and conflict filled process. New knowledge, skills and attitudes are achieved through confrontation among the four perspectives in the experiential learning model. The learner, to be effective, needs four different kinds of abilities - concrete experience, reflective observation, abstract conceptualization and active experimentation. That is, the learner must be able to involve himself fully, openly and without bias in new experiences (CE), able to reflect on and observe experiences from many perspectives (RO), able to create concepts that integrate observations into logically sound theories (AC) and he/she must be able to use the theories to make decisions and solve problems (AE).

The learner who is able to do all of these things well is an ideal and this ideal is difficult to achieve. How can one act and reflect at the same time? How can one be concrete and immediate and still be theoretical? Learning requires abilities that are polar opposites and the learner, as a result, must choose which set of learning abilities he/she will bring to bear in any specific learning situation.

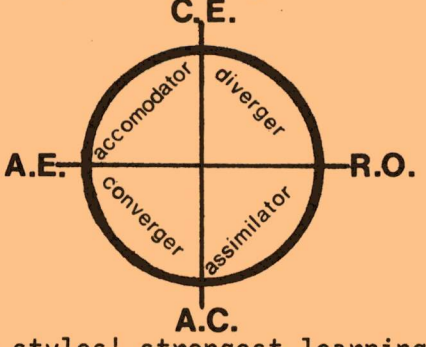
More specifically, there are 2 primary dimensions to the learning process. The first dimension represents the concrete experiencing of events at one end and abstract conceptualization at the other. The other dimension has active experimentation at one extreme and reflective observation at the other. Thus, in the process of learning one moves in varying degrees from actor to observer, from specific involvement to general analytic detachment.

The model depicts learning as a process of conflict confrontation and resolution among four ways of relating to the world.

As a result of hereditary equipment, our particular past life experience and the demands of our present environment, most people develop learning styles that emphasize some learning abilities over others. Through socialization experiences in family, school and work we each come to resolve the conflicts between being active and reflective and between being immediate and analytical in characteristic ways. Some people develop minds that excell at assimilating disparate facts into coherent theories, yet these same people are incapable of or uninterested in deducing hypotheses from their theory. Others are logical geniuses but find it impossible to surrender themselves to an experience. A mathematician may come to place great emphasis on abstract concepts while a poet may value concrete experience more highly. A manager may be primarily concerned with the active application of ideas while a naturalist may develop his/her observational skills more. Each of us has, in a unique way, developed a learning style that has some weak and strong points. These styles have a profound impact on not only the way in which we learn, but also the way in which we teach.

David Kolb and his colleagues have developed a simple self-description inventory that measures an individuals' relative emphasis on the 4 learning abilities mentioned above and thus an individuals' relative strengths and weaknesses as a learner.

The four possible preferred styles Kolb has labelled:



DIVERGER: This styles' strongest learning abilities are in concrete experience and reflective observation. The diverger's greatest strength lies in his/her imaginative ability. He/she excells in viewing concrete experiences from many perspectives and in organizing many relationships into a meaningful whole.

.../3

Research into this particular style shows that divergers are interested in people and tend to be imaginative and emotional. They tend to have broad cultural interests and to specialize in the arts.

ASSIMILATOR: This styles' dominant learning abilities are abstract conceptualization and reflective observation. The assimilators' greatest strength lies in his/her ability to create theoretical models. An assimilator excells in inductive reasoning; in assimilating disparate observations into an integrated explanation. A person with this learning style tends to be less interested in people and more concerned with the practical use of theories. This learning style is more characteristic of the basic sciences and mathematics than the applied sciences.

CONVERGER: Dominant learning abilities are abstract conceptualization and active experimentation. A person with this style would have as his/her greatest strength, the practical application of ideas. A person of this style seems to do best in those situations like the conventional intelligence tests where there is a single correct answer or solution. Convergers often choose to specialize in the physical sciences and that this style is characteristic of many engineers.

ACCOMODATORS: Dominant learning abilities are active experimentation and concrete experience. The styles' greatest strength lies in doing things; in carrying out plans and experiments. The accomodator tends to excell in those situations where he/she must adapt to specific immediate circumstances. He/she tends to solve problems in an intuitive trial and error manner, relying heavily on other people for information rather than his/her own analytic ability.

In any given classroom, a variety of these styles are going to be present and thus a variety of learning abilities and weaknesses. We have taken the four poles of the learning model and the four styles and listed out the areas in which each style will excell along with methods they relate to best and some of their weaknesses.

See Diagram #3 page: #4

All of us are able to function in all four guadrants of the learning cycle to some degree, however, we also tend to gravitate towards the area of our greatest strength. As our society and our lives grow more complex and we are forces to develop a variety of skills, it becomes more and more important that we develop not only our cognitive abilities but also our relational abilities. Engineers, for example, no longer design in solitude but rather are required to work in project groups. A history professor may suddenly find herself promoted to an administrative position which requires managerial skills. We can no longer afford to educate on a purely content level, we must also begin educating for the application of knowledge.

If both students and teachers are aware of strengths and weaknesses as learners, they are more able to understand themselves and their interactions with the environment. I for instance, having diverger as my preferred learning style, know that as a learner I am imaginative, can deal well with ambiguity and flourish in an educational environment which allows me alot of interaction with people and the opportunity to reflect. Simulations, group discussions, lectures are all enjoyable. I run into difficulty however when I am asked to explain my learning or apply it. Writing term papers, comparing theories or giving presentations become stressful. To succeed I needed to learn how to do these things; to maintain my motivation I also needed the opportunity to be involved and to create. A converger would be the opposite and find it painful to participate in role plays, to be asked to generate new perspectives or multiple answers to a given problem.

As a teacher my style predisposes me to place a great deal of emphasis on my students' experiences and so I tend to give them alot of responsibility and ask them to incorporate reflection. My strength lies in providing insight and depth, my weakness, again is in being able to clearly explain the mechanics of a given theory or what to do with the new insight they have gained. I excell in directing discussions, resolving conflicts and promoting creativity. I fall down in giving directions, clear guidelines or rules. A converger or assimilattor in my classroom would be frustrated, whereas accomodators and divergers would be

.../4

THE FOUR LEARNING STYLES AND THEIR CONTRIBUTING LEARNING MODES

ACCOMMODATOR STYLE (AE+CE)

Excess of Abilities

-trivial improvements
-tremendous accomplishment of the wrong thing

Deficiency of These Abilities

-work not completed on time
-not directed to goals

Abilities

-ability to carry out plans, action oriented - interested in results
-likes new experience, a risk-taker
-adapts to immediate circumstances
-intuitive, trial-and-error style
-advocates positions or ideas
-sets objectives
-commits to schedules
-commits resources

DIVERGER STYLE (RO+CE)

Excess of Abilities

-paralyzed by alternatives

Deficiency of These Abilities

-inability to recognize problems and opportunities
-ideas often poor

Abilities

-imaginative ability, good at generating ideas, "brainstorming"
-can view situations from many perspectives
-emotional, interested in people
-seeks background information
-senses opportunities
-investigates new patterns
-recognizes discrepancies, problems
-generates alternatives
-open to experience

Concrete Experience (CE)

-experience-based approach to learning
-feeling-based judgements
-people-oriented
-role play
-simulation
-discussion groups
-comfortable with ambiguity

Active Experimentation (AE)

-active, doing approach to learning
-involvement with activities that test one's knowledge and ability
-lab education
-practical application-engineering, sciences etc.

FOUR LEARNING MODES

Reflective Observation (RO)

-tentative, impartial, reflective approach to learning
-preference for role of observer rather than patticipant
-lecture
-passive

Abstract Conceptualization (AC)

-analytic approach to learning
-logical, rational
-orientation toward things & symbols
-respects authority & structure

CONVERGER STYLE (AC+AE)

Excess of Abilities

-premature closing
-solving the wrong problem

Deficiency of These Abilities

-no focus to work
-theories not tested
-poor experimental design

Abilities

-good at practical application of ideas
-does well in situations where there is 1 answer to a problem, e.g., conventional IQ tests
-selects among alternatives
-focusses efforts
-evaluates plans & programs
-tests hypotheses
-makes decisions, practical,

ASSIMILATOR STYLE (AC+RO)

Excess of Abilities

-castles in the air
-no practical applications

Deficiency of These Abilities

-no theoretical basis for work
-unable to learn from mistakes

Abilities

-ability to create theoretical models
-inductive reasoning
-compares alternatives
-establishes criteria
-formulates plans & hypotheses
-defines problems

highly motivated. Knowing this I can work on it, ask for feedback from my students and peers and constantly provide learning opportunities and methods that are challenging to my students and to myself. Faculty with other preferred styles would be able to give clarity but may have difficulty in motivating students and providing personal relevance to the content.

If you are interested in finding out your preferred learning style or would like to get a profile of learning styles in your classroom, we have copies of the L.S.I. available. Learning Development Office, 2492 West Broadway, Local 397.

*Adapted from - "Towards an Applied Theory of Experiential Learning" by David Kolb and Ronald Fry.

Theories of Group Processes

ED: Carey Cooper